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ABSTRACT

This newsletter reports on project KUL-A, an evaluation of the procedure and effectiveness of teacher training in Sweden. The newsletter contains descriptions of the educational process in Sweden, descriptions of instruments for testing the effectiveness of teacher training, and a brief summary of the evaluations to this time. It is indicated that the entire project will be fully reported from 1974 to 1976. A list of current reports as of August 1972 is included in the text. All of these reports that are listed are in Swedish. (Related document is SP 006 616.) (JA)

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SCHOOL RESEARCH newsletter

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Project title: Qualitative Evaluation of Teacher Training, Academic Subject Teachers Section (Swedish: Kvalitativ utvärdering av lärarutbildning, ämneslärarlinjen, abbr to KUL-Ä)

Carried out at: Department of Education, Linköping School of Education

Scientific leader: Professor Sixten Marklund

Project leader: Dr Thord Erasmie

Background

An evaluation of teacher training of class teacher groups (KUL-K) started during the autumn term of 1968, under the supervision of the Department of Education at the Stockholm School of Education and is still in progress. Memoranda on the subject have been presented by Haglund, 1968 and Linné, 1969. (School Research Newsletter 1969:6).

In the autumn of 1969 the Department of Education at the Linköping School of Education was asked to test the instruments used for testing by the KUL-K project by trying them out on a group of academic subject student teachers. The testing was carried out in May-June 1970 and the student teachers participating belonged to the voluntary county boarding school for adults. A report to the NBE was prepared by Erasmie, 1970.

In connection with the testing of the voluntary county boarding school for adults the decision was made to carry out a broader

evaluation of the academic subject teacher section, the task being entrusted to the Department of Education at the Linköping School of Education. Field work was commenced during the autumn term of 1971. (For further details, see schedule).

Aims

... To study the extent to which teacher training attains its defined objectives.

... To study how the attitudes and expectations of the student teachers are modified during the training process. On the basis of the student teacher's previous experience, his knowledge, and social attachment, to study the components of the training which are relevant to the teaching profession.

... To investigate whether the defined objectives can be realized by means of the present form of teacher training, and

... to establish a basis for assessing points in which the training system can be revised.

Problem areas

Conditions

When the student teacher starts his teacher training he already possesses a university degree. Previous knowledge of the various combinations of subjects generally shows little variation. It is therefore desirable to illustrate the conditions in terms of other criteria.

The background variables assumed to be of significance to teacher training are:

Social circumstances such as ecological data, migration, etc.
Parents' socio-economic status.

Previous training, matriculation examination marks, mark awarded for subjects in university degree.

Teaching experience.

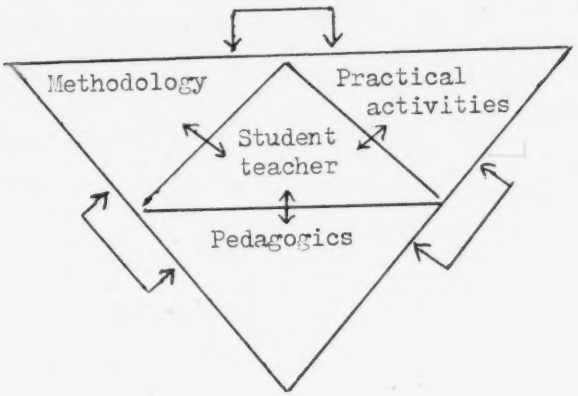
Degree of dedication to profession.

Expectations in connection with teacher training.

The data of the background variables of the student teachers, who have natural sciences and mathematics as subjects, have been reported by Erasmie in May 1971.

The Process

Training at the School of Education comprises three main fields: methodology, pedagogics and practical activities. The part played by the student during teacher training is shown in the following sketch.



According to this model, the training can be explained as an interaction in which the three components in conjunction with the student teacher's own efforts yield an effect, the result of the training.

Assuming that the interaction is optimal and that the student teachers are equally well qualified in respect of their previous education, it is highly probable that the effect of the training will vary on account of previous experiences as well as attitudes towards the teaching profession.

In the course of the process, the fields which may be expected to prove significant are

a. educational training in theory and practice
b. training in methodology and
c. attitudes towards the teaching profession

Guiding Factors and Resources

The effect of the training is dependent on the guiding factors and resources are to be found in the system of the School of Education.

The guiding factors consists of general formulations of aims in regulations and syllabuses, official statements and the expectations of the community.

The resources can be summed up as follows:

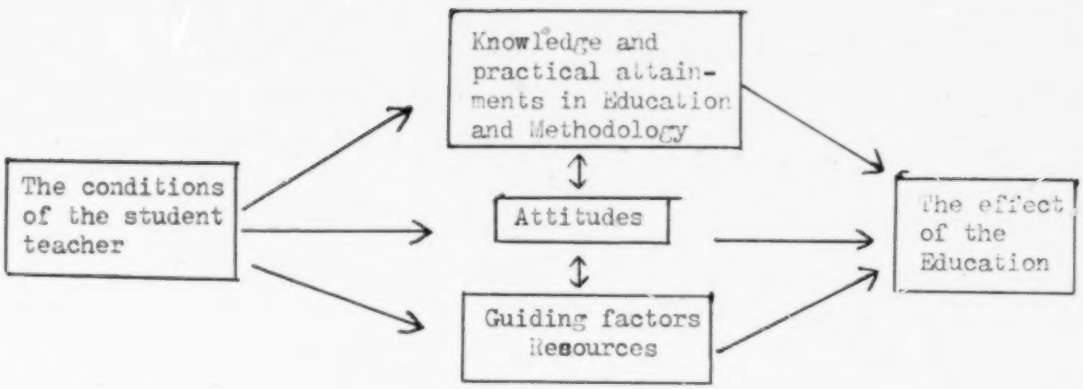
a. Material resources such as educational materials, premises, etc.

b. Organizational resources such as form of teaching, size of groups, various types of coordination, etc.

c. Staff resources such as teachers, tutors, administrators (education, attitudes, turnover).

The School of Education system can be described as an interaction model in which the effect of the training is dependent on the interplay between the conditional and process variables.

In the following figure the conditional stage corresponds to the variables described under 1, and the process stage to those described under 2 and 3.



Instrument set

To collect information about the different components in the process of teacher training the instruments below were constructed. These were used each term on different groups of student teachers.

The name of the instrument	Aim
Questionnaire	
No 1. Questionnaire for student teachers	To collect data concerning the student teacher's background
No 2. Questions about the School of Education term	To collect data conserning the student teacher's experiences during his School of Education term
No 3. Questions about the Practical Term	To collect data concerning the student teacher's experiences during his Practical Term

Questionnaire for school-administrators	To collect data about the experiences of the school administrators at the Schools of Education concerning present teacher education
Attitude test	To study changes in attitude during the educational process
Pedagogics test	To collect data concerning the student teacher's knowledge and evaluation of pedagogics
Methodology tests	To collect data concerning the student teacher's knowledge and evaluation of the methodology of their subjects

Commentary

There are reports concerning questionnaire No 1 and the pedagogics and methodology tests. More reports concerning the KUL-Ä-project will be published later.

Schedule

The project started in 1970 and is planned to continue till 1974.

During this period of time the population of student teachers mentioned below is included.

1971 - 1972	natural sciences and mathematics
1972 - 1973	foreign languages
1973 - 1974	social sciences and Swedish

The student teacher affects during his education of one year by the projects of KUL-Ä as shown in the figure below.

School of Education Term (Term of Theory)		Practical Term
1	2	2
2	3	5
	4	
	5	

1. Questionnaire for student teachers (questionnaire No 1)
2. Attitude test
3. Pedagogics test
4. Methodology test
5. Questions about the School of Education term (questionnaire No 2)
6. Questions about the Practical Term (questionnaire No 3)

Commentary

Beside the instruments mentioned in the basic plan of the project, there are some sub-projects which will be reported as they are finished. An example of such a sub-project is:

The student teacher's creativity

REPORTING

The project will be fully reported from 1974 to 1976. In August 1972 these stencilled reports have been published: x)

Erasmie T — Academic subject student teachers. The Autumn Term, 1971. Population description of student teachers with natural sciences and mathematics as subjects, admitted to the academic subject teachers section in the Autumn Term, 1971 (publ May 1972 LHL)

x) All reports are in Swedish

Eriksson K H — Solution and evaluation of questions in pedagogics. Construction and preliminary testing of an instrument of evaluation for the academic subject teachers section of the School of Education (publ May 1972 LHL)

Hök P — What do the pupils think of the student teacher's teaching (publ June 1972 LHL)

Almroth S — Methodology tests. Construction and preliminary evaluation. Discussion memorandum. (publ August 1972 LHL)

A summary of three of these reports will be given here.

Erasmie T — Academic subject student teachers, Autumn Term, 1971.

Introduction

The most important results when studying the questionnaire are the student teacher's attachment, his educational background and his determination of choice of teacher training. In this chapter these aspects will be discussed.

Social attachment

Our material has shown that the student teachers participating in the KUL-Ä investigation of 1971 have a social background which only partially agrees with that of the whole population of Sweden. Taking the level of education of their parents into consideration, the differences are small compared to that of the whole population. Concerning the social attachment, Social Class II is over-represented and Social Class III under-represented. The differences in our material are, however, less than the differences in social class of the total amount of

students registered at universities and university level colleges in the years 1968 - 1969 according to U 68 [1].

The social recruitment of the academic subject teachers section is different to that of the universities and university level colleges as a whole and consequently more in accordance with that of the whole population of Sweden.

Education at university level

The student teachers who started their academic subject teacher training in natural sciences and mathematics in the Autumn Term of 1971 have a university-degree with more or higher grades than those required to get a B Sc. The cause of this lies in the difficulty of gaining access to the academic subject teachers section. That is, it has been necessary for the student to collect more or higher grades than are formally required for an exam.

If higher grades than necessary, or so called "spets"[2] are criteria of quality, the student teachers in our material are well qualified. More than 1/3 of all participating students have higher grades than necessary, i.e. quality marks ("spets") in the degrees at their teaching subjects. It has not been possible to make a comparison with students in general. The statistics of university grades has, however, shown that grades with "spets" are variable. The distribution of "spetsar" calculated as a percentage varies from subject to subject. The variation is as wide as 5 - 25 to 30 %.

Even if it is easier to get higher grades ("spets") in subjects like mathematics and physics, the student teachers still are the pick of the students compared to those at the Faculty of Philosophy.

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1) Report of the Education Commission of 1968 (SOU 1971:61)

2) A quality mark on the degree which can be given when the student is very good in his exam. Originally a student could only pass or fail in his exam.

It is also notable that the student teachers have passed their university degrees in a shorter time than the students in general.

Dedication to profession

The student teachers in our material are to a remarkable extent directing themselves towards their profession. Many of them have previously practiced as teachers. They are interested in teaching and questions of pedagogics and the majority are not interested in any other profession than that of teaching.

Summary

During the first phase of the KUL-Ä project student teachers with natural sciences and mathematics as subjects have participated. In total, there were 419 student teachers in Sweden with an educational field containing natural sciences and mathematics and, of these, 386 student teachers filled in the questionnaire, i.e. 92 % of the population. The questions in the questionnaire concerned the student teacher's sex, his age, his social class, his education and attachment to the Teaching Profession.

In the questionnaire we have tried to give answers to the questions "What kind of person is the student teacher?" and "Why does the student teacher want to be a teacher?"

The answers can be generalized as follows:

What kind of person is the student teacher?

The academic subject student teacher with natural sciences and mathematics as subjects in the Autumn Term of 1971,

a) is 26.2 years old
b) belongs to Social Class II
c) his parents education consists of primary school
d) has a "fil kand" (B Sc) or "fil mag" (B Sc) degree
e) has marks from the "gymnasium", i e High School or Grammar School which are higher than the average
f) has 7.4 grades in his university degree
g) has higher degrees than necessary, i e "spets" in one or more subjects.

Why does the student teacher want to be a teacher?

The academic subject student teacher has applied to a teacher's training college because

a) he had decided to be a teacher when he started his education
b) he is interested in children and youth
c) he is interested in teaching
d) he is interested in his subjects
e) he appreciates the comparative independence of the profession

Eriksson K H Solution and evaluation of questions in pedagogics

Summary

This is a sub-report within the KUL-Ä-project. It gives an account of the problems which appeared while constructing an instrument of evaluation and while testing it. The basis while constructing the instrument was a syllabus published in 1971; which deals with the academic subject teachers section of the Schools of Education.

We have tried to cover all nine elements in the course of pedagogics. The amount of questions are to some extent related to the importance of the element, as defined in the syllabus of pedagogics.

Totally there were 60 questions in the instrument chosen from a set of questions which was four times as large. Each question in the instrument was subjected to both "solution" and "evaluation". This connection between "solution" and "evaluation" gives results which direct us towards a discussion of what the levels of knowledge, understanding, application, etc in education ought to be and on what levels an objective construction of tests can be made.

A tension develops not surprisingly in the instrument between the demand of questions which are short and clear and the demand of questions which have a high degree of understanding and applicability etc according to Bloom's taxonomy, i.e. the items degree of experienced attachment to concrete situations in the classroom.

Almroth S Methodology test

This discussion memorandum is a sub-report within the KUL-Ä project and accounts for the construction and the preliminary evaluations. Our aim is to construct an instrument of evaluation concerning the methodology in some subjects (mathematics, physics, biology and chemistry) using as a basis the directions given in the syllabus of the academic subject teachers section of the Schools of Education.

The tests were constructed by experts in methodology of the subjects and contained about 30 questions each.

We were not able to come to any definite conclusions while scrutinizing the results of the evaluations as the population was too small.

The problem of this kind of tests seems to be in constructing questionnaires which only measure knowledge, abilites, etc from the methodological angle. The chemistry and biology tests seem rather to measure the knowledge of the subjects.

Further information can be given by the project leader at the address below:

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